

COPHIXALUS BOETTGER, 1892 (AMPHIBIA, SALIENTIA):
PROPOSED DESIGNATION OF TYPE SPECIES UNDER THE
PLENARY POWERS. Z.N.(S.) 2298

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Cophixalus Boettger (1892) was erected to accommodate *C. geislerorum* Boettger, 1892, a small microhylid frog from "Kaiser-wilhelmsland" (New Guinea) stated to lack procoracoids and clavicles. Although three other specimens, now in the Natural History Museum in Vienna were probably collected at the same time, they were apparently ignored by subsequent authors and the genus remained monotypic when Van Kampen (1923) commented "Probably a renewed examination will show that the species belongs to *Oreophryne* or *Sphenophryne* and the genus *Cophixalus* has to be cancelled."

2. Parker (1934) distinguished *Cophixalus* from other sphenophryine genera (Parker, 1934; Zweifel, 1971) largely by the characters nominated by Boettger (1892). Evidently he did not examine the type specimen of the type species but relied on the original description in formulating his diagnosis, for, in his monograph, Parker listed specimens examined and the type of *geislerorum* was not among them, nor were any other specimens referred to this taxon. Parker also redefined *Oreophryne* Boettger (1895) for another group of Papuan species in which the procoracoids and clavicles are present but reduced to medial portions.

3. The systematic arrangement proposed by Parker, 1934 was widely adopted and numerous new species were described or referred to *Cophixalus* and to *Oreophryne* (e.g. Loveridge, 1948, 1955; Zweifel, 1956, 1962a, 1962b, 1963; Zweifel & Parker, 1969, 1977). There are at least 30 papers employing these generic names and they also appear in herpetofaunal syntheses for the Philippines (Inger, 1954), Sabah (Inger, 1966), New Guinea, (Menzies, 1976) and Australia (Cogger, 1975).

4. The holotype of *C. geislerorum* (Senckenberg Natur-Museum und Forschungsinstitut, Frankfurt, Number 4198) has had most of the pectoral muscles on both sides dissected away, together with any trace of procoracoids or clavicles that might have once existed. Nevertheless, the general resemblance of habitus to frogs of

the genus *Oreophryne* is striking. However, there are three other specimens, previously mentioned, in the Naturhistorisches Museum, Vienna (Numbers 19828.1 — 19828.3) labelled "Type, 1893 New Guinea" by Schlütter which may have been collected at the same time in the same general area as the holotype. Schlutter was an animal dealer in Halle, who distributed specimens collected by the brothers Geisler. We consider the Frankfurt and Vienna specimens conspecific, although there is no evidence that Boettger examined the Vienna specimens in the course of preparing his generic and specific descriptions and so they do not constitute type specimens. Nevertheless the Vienna specimens are significant because dissection reveals the presence of procoracoids and small, curved clavicles diagnostic of *Oreophryne*. We therefore conclude that the original description of *C. geislerorum* erred with respect to the critical nature of the pectoral girdle. Such a mistake is understandable — the clavicles of these frogs are tiny ($0.88 \times 0.06\text{mm}$ in one specimen) and transparent as is the cartilaginous procoracoid, and so are easily overlooked. Indeed, Boettger (1895) evidently made the same error in describing his genus *Oreophryne* as having "Kein Praecoracoid" but one specimen in the type series of the type species, *O. senckenbergiana*, does have procoracoids and clavicles (the pectoral girdle is missing from the holotype).

5. The discovery that *Cophixalus geislerorum* is most likely improperly associated in its present generic context and probably belongs with the species now placed in *Oreophryne* means that, according to the rules of nomenclature, *Cophixalus* Boettger, 1892, should replace *Oreophryne* Boettger, 1895, and a replacement name be found for *Cophixalus*. We feel that there are cogent reasons for not taking this action, for the confusion that would be caused by the substitution of *Cophixalus* for *Oreophryne* is appalling to contemplate. Forty-four species now considered valid are concerned, most of them inhabiting New Guinea, and all would undergo a change in genus. Moreover, Méhely (1897, 1901) and Loveridge (1948, 1955) both used the same specific patronyms for species now assigned to the two genera and this action would contribute greatly to the confusion: *Oreophryne biroi* (Méhely, 1897) and *Cophixalus biroi* (Méhely, 1901); *Oreophryne parkeri* Loveridge 1955 and *Cophixalus parkeri* Loveridge 1948.

6. We consider that a much less disruptive solution is to have *geislerorum* set aside as the type species of the genus *Cophixalus* and a new type species designated. The next oldest species in the genus is *montanus* (Boettger, 1895). The type specimen, also in Frankfurt, is in poor condition with the skull removed. No specimens additional to the two upon which the original description was based have been reported and better material is not likely to be

readily available, for the type locality is on Halmahera Island in the Moluccas. This would seem, therefore, to be a poor choice as a type species.

7. The next species to be described that are currently referred to *Cophixalus* are *Sphenophryne ateles* and *S. verrucosa*, both described by Boulenger in 1898. The lectotype of *ateles*, in the Museo Civico di Storia Naturale, Genoa, is in poor condition. Apparently none of the specimens in the type series of these minute frogs (the largest is about 15mm long) has been dissected to verify the condition of the pectoral girdle, but a specimen with a high degree of resemblance to the lectotype has been cleared and stained with alizarin and shown to lack clavicles.

8. The lectotype of *C. verrucosus* is also in the Genoa Museum and it too has not been dissected. This is a common, widespread species (records for *ateles* other than the specimens in the type series are in question) and the absence of the clavicle is verified in several alizarin stained specimens. These considerations make *verrucosus* an appropriate species to be designated as the type of the genus.

9. The situation is complicated by doubts as to the exact provenance of *geislerorum* which is stated as "Kaiserwilhelmsland, Neuguinea." The frogs were collected by the brothers Geisler and sent to Schlütter who sold one to the Senckenberg Museum and three to Vienna. During the period in question, the Geislers made an extensive journey, taking in several localities in the eastern part of the Huon Peninsula as well as visiting the site of the present town of Madang (then known as Stephansort) and Kokopo on the Gazelle Peninsula of New Britain (Wichmann, 1912). It is unlikely that the specimens came from New Britain or they would have been so labelled ("Neu Pommern" in those days). Thus although areas from which the type and other specimens came can be fairly well circumscribed, a precise type locality cannot be identified.

10. The question of whether *Cophixalus geislerorum* is a senior synonym of a species of *Oreophryne* presently recognised cannot be answered now. At least two species of *Oreophryne*, morphologically similar to *geislerorum* but with distinct male vocalisation, occur in the general area from which *geislerorum* came. Determination of which, if either, of these is the true *geislerorum* must await additional information and study. In any event, *Oreophryne geislerorum* (Boettger), new combination, will stand as a valid species. The only older names in the genus are for two species in the remote Moluccas.

11. Following from the information and opinions expressed above, we ask the International Commission on Zoological Nomenclature:

- (1) to use its plenary powers to set aside all fixations of type species for the nominal genus *Cophixalus* Boettger, 1892, and to designate *Sphenophryne verrucosa* Boulenger, 1898, as type species of that genus;
- (2) to place the following generic names on the Official List of Generic Names in Zoology:
 - (a) *Cophixalus* Boettger, 1892 (gender: masculine), type species, by designation under the plenary powers in (1) above, *Sphenophryne verrucosa* Boulenger, 1898;
 - (b) *Oreophryne* Boettger, 1895, (gender: feminine), type species, by monotypy, *Oreophryne senckenbergiana* Boettger, 1895.
- (3) to place the following names on the Official List of Specific Names in Zoology:
 - (a) *verrucosa* Boulenger, 1898, as published in the binomen *Sphenophryne verrucosa* (specific name of type of *Cophixalus* Boettger, 1892);
 - (b) *moluccensis* Peters & Doria, 1878, as published in the combination *Microhyla achatina* var. *moluccensis* (the currently valid name for the type species of *Oreophryne* Boettger, 1895).

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